



Reducing energy consumption of primary care buildings

– guidance for estate managers



***Are your smaller buildings
being left out in the cold?***
ARCHIVED DOCUMENT

Reducing the energy consumption of primary care buildings

Introduction

The NHS has reduced energy costs in hospitals by 20% over the past 10 years. However, many of the smaller buildings in the Trusts' estates have been overlooked and these can provide very worthwhile savings.

A recent survey of primary care premises carried out for the Government's Energy Efficiency Best Practice programme (EEBPP) shows that about £8 million worth of energy is consumed in primary care premises owned by Trusts. The difference in energy performance between good practice and poor practice was found to be 60% (where good and poor are defined as the performance of the best 25% and worst 25% respectively of all premises surveyed). It is interesting to note that no significant difference in energy performance was found between

NHS Trust managed properties and owner-occupied GP surgeries. This shows that well-established energy-saving programmes that exist in many NHS Trusts are not being applied to their smaller buildings.

The survey also showed that in a typical primary care group (PGC) with an energy bill of £75 000, £19 000 of energy savings could be achieved if all premises met good practice benchmarks. This would be achieved if cost-effective energy efficiency measures were introduced. Many of the savings can be delivered through no-cost good housekeeping measures. Over the long term, an energy management input is needed at both the design stage for new buildings and for the maintenance of existing buildings to ensure that energy is not wasted.

Quality and safety objectives are set out in the DoH document 'Modernising Health and Social Services – National Priorities Guidance 2000/01-2002/03' (HSC1999/242). The primary care sector aims for 'fast, convenient service' in buildings 'fit for purpose'. This points to comfortable and energy-efficient premises. Overheated, poorly lit or draughty premises struggle to provide a convenient service and do not provide comfortable working conditions. There is even concern that hot and stuffy waiting areas compromise health by promoting microbial growth.



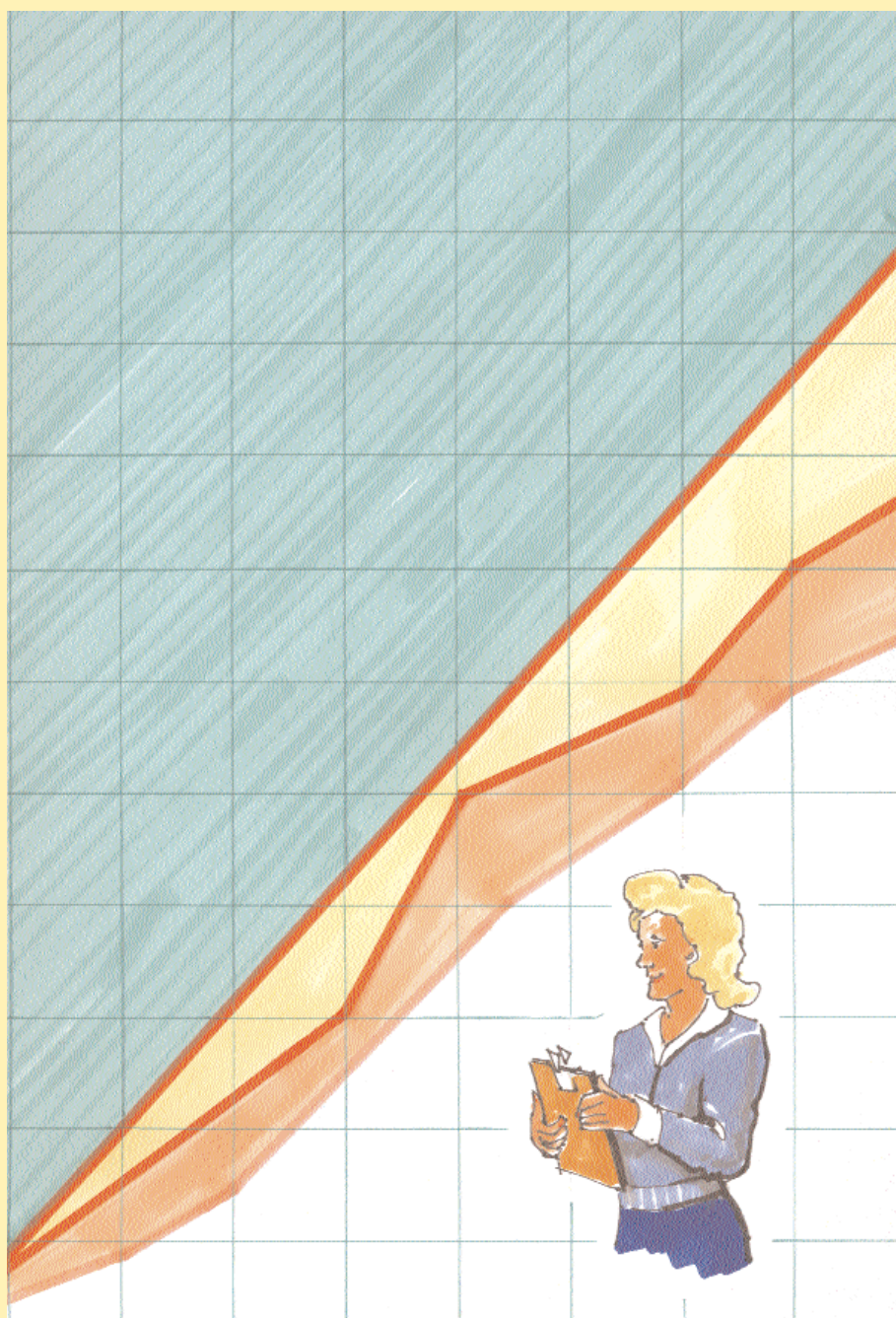
A pleasant, well-lit and carefully ventilated environment puts patients at their ease and is conducive to effective, high-quality healthcare. The Cleavesdon Sunnyside practice has saved £1600 per year by taking advice from the Government's Design Advice scheme

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For free impartial advice on how to improve your energy efficiency ring the Government's Environment and Energy Helpline, on 0800 585794, or visit the website at www.energy-efficiency.gov.uk. Other sources of help, advice and funding are listed on the back of this Leaflet.

CASE STUDY

Brunswick House, Sheffield is a community psychiatry unit belonging to Sheffield Community NHS Trust. In 1997, considerable savings were made by installing secondary glazing and gas consumption was reduced by 18%. Further savings have since been achieved by upgrading the lighting system.



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Benchmarking your primary care buildings

Figures 1 and 2 represent the results of the primary healthcare buildings survey carried out for the EEBPp in 1998. Good practice is defined as the level already achieved by 25% of all primary care premises. Poor is defined as the figure that is bettered by 75% of all premises.

If the performance of average premises was improved to that achieved by good practice buildings (see table 1), a saving of 35% would be achieved, which rises to over 50% if the building was in the poor category. How do your buildings compare?

To compare the consumption of your primary health buildings against these benchmarks, you need to know the floor area and actual meter readings.

Energy suppliers often do not read meters but instead send estimated bills that can be inaccurate. The only way to get accurate consumption data is to take your own meter readings. The best way to do this is to link all your buildings to the central building energy management

system (BEMS) and automate the task. Alternatively this could be carried out during the regular maintenance visit. In some buildings this could also be carried out by a member of the premises staff. Encouraging staff to read their own meters and calculate consumption is a highly effective way to make them aware of their energy consumption.

	Annual energy performance (kWh/sqm)	Cost (£)
Average	270	6.94
Good practice	174	4.50

Table 1 Typical annual energy performance and cost benchmarks for average and good practice premises

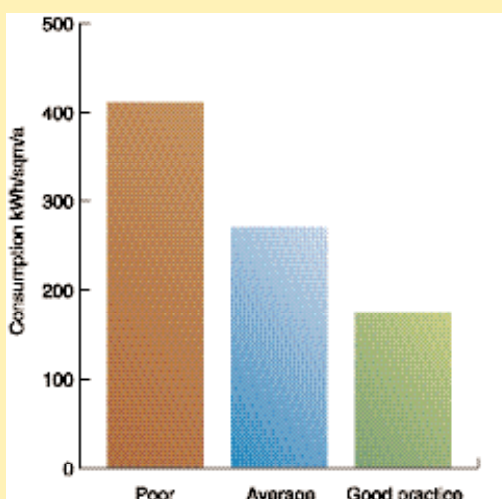


Figure 1 Typical energy consumption for primary health buildings

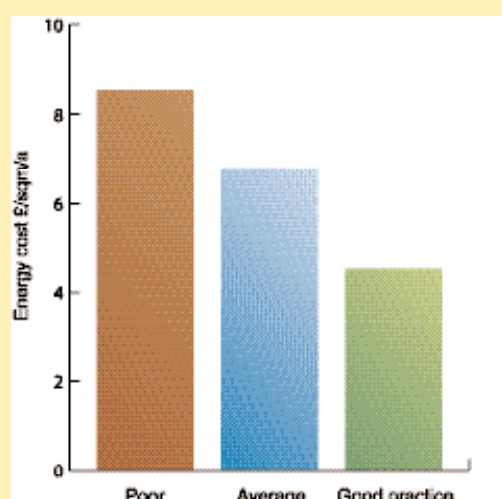


Figure 2 Typical energy costs for primary health buildings

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Technical opportunities to save energy

A recent survey of a sample of primary healthcare buildings showed the percentage of buildings that could benefit from each of the following measures.

Description of measure	% of buildings
Site energy policy. Having an energy policy for each site involving all staff. Ideally part of overall corporate policy initiated by PCG or Trust boards	90
Lighting controls. Sensors to turn lights off when rooms are unoccupied or when daylight is adequate can save 30%	90
High-frequency ballasts. Save 20% of lighting energy and eliminate flicker and hum. Can be dimmable and save more if used with lighting controls	85
Pipe and valve insulation. Flexible jackets are now available to fit all types and sizes of pipe and valve components	75
Reset boiler controls. Existing controls are often adequate but clocks need resetting or settings need updating for changes in building use	75
Trickle ventilation. Small, closable vents fitted to window frames ensure adequate ventilation, remove stale air and prevent dampness	45
Draughtstripping. Sealing around poorly fitting doors and windows reduces excessive ventilation and improves comfort	45
Cavity wall insulation. Filling uninsulated cavity walls with insulation will pay back within four years	45
Tariff negotiation. Shopping around for the best deal for electricity and gas can save 15-20%	25
Account management. Monitoring consumption ensures bills are correct and detects avoidable waste, saving 5-10%	25
Maintenance improvement. Poorly maintained plant always runs inefficiently	25
Loft insulation. If insulation is less than 100 mm thick, disturbed or patchy, top up to 200 mm	25
Compact fluorescent lamps. Replace tungsten bulbs immediately for a 75% saving	20
Maintenance co-ordination. Where utility account management is in place, maintenance can be prioritised to the least efficient buildings	15
Boiler replacement. When boiler is nearing the end of its life, consider replacing with a condensing boiler	10

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A management approach to tackling primary care buildings

Corporate commitment

It is likely that your Trust already has an energy policy. Does it apply to the primary care buildings? If not, consider extending it in consultation with the primary care development manager of your local PCG to gain support from the top and to put in place the steps for efficient progress.

Measure and understand

Get the help of primary care staff to take regular readings of fuel and water meters in every building. Enter the readings and bills on a monitoring and targeting software package. You will then be in a position to calculate benchmarks and assess potential savings. You will also be able to seek competitive tenders for fuel supply to immediately release revenue for investment.

If the occupiers of the building are GP or dental practices, ie they don't work directly for the Trust, how do they pay for the energy they use? If they pay a flat rate or it's included in the rent, amend the contract so they are charged according to their actual consumption. Issue them with invoices based on actual meter readings. The occupiers will then have an incentive to adopt good housekeeping.

Plan and organise

Where do we want to go? What have others achieved? Compare your buildings against the benchmarks (see page 4). Set targets for each building.

Don't forget water – find out what buildings are using at night and check that night-time consumption is legitimate.

How do we get there? Survey buildings with practice managers. Using the list on page 5, identify which of the measures are appropriate for each building. Help the practice managers to prepare schedules of work, obtain quotes, and develop action plans. Integrate with primary care improvement plans to enable support from central funds. Agree levels of re-investment of savings with budget holders.

Implement

Armed with budget costs and paybacks, help practice managers write energy policies, seek the capital funds to implement the schedules of work and introduce improved 'energy housekeeping'. Combine with other projects if possible. Apply for the internal funds that may be available. Check external advice and grant availability (see page 7).

Talk to maintenance departments and architects. Do they seek advice from you? They should do, as 25% of premises surveyed in this sector are wasting energy due to poor maintenance.

Get support from the top if your comment is ignored.

Provide staff awareness training.

Control and monitor

Record all effort, control and monitor its effect. Provide energy and water consumption costs and environmental impact statistics. You will then have the justification for further work.

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Government targets and grants

All PCGs have a target to reduce their administrative and management costs by 3% annually. Energy represents a significant controllable cost. Energy and water efficiency is often overlooked in smaller buildings, and may make significant contributions to savings targets.

Where to go for help

The EEBPp provides impartial help and advice. Free information is available on almost every issue including how to write an energy policy, how to motivate staff, training and all relevant technical issues. Posters, stickers and free consultancy are also available.

Design Advice, part of the Action Energy service, provides one day's free consultancy and a subsidised consultancy thereafter using a panel of registered energy consultants. This can help you specifically when considering new building work or major refurbishment, which is a good time to deal with poor insulation, lighting or heating systems.

Information is available from the EEBPp's website, www.energy-efficiency.gov.uk, and the Environment and Energy Helpline on 0800 585794.

Support from your local council

Under Agenda 21 and Business Links, local councils are increasingly

developing energy advice services for the wider community. Many have energy conservation guidance and some provide renovation grants. It is worth a call to the Planning Department, Building Control section, or the Environmental Health section.

NHS funding

GP practices can apply for improvement grants from their health authority (in Wales this will be through the local health group) to help with the cost of certain improvements to their premises. The funds are channelled through the PCG as part of its annual investment plan.

Improvement grants can pay for up to 66% of the cost of new lighting, heating and ventilation systems and of double glazing.

The primary care development manager can advise on the availability of funds in your area, and help GP practices to submit proposals.

External grants

Your Gas, electricity and water suppliers often provide customer discounts on capital purchases. Ring the helpline on each account. Many suppliers are running efficiency schemes for their customers in support of the Government's energy efficiency drive.

The Government's Energy Efficiency Best Practice programme provides impartial, authoritative information on energy efficiency techniques and technologies in industry and buildings. This information is disseminated through publications, videos and software, together with seminars, workshops and other events. Publications within the Best Practice programme are shown opposite.

Visit the website at **www.energy-efficiency.gov.uk**

Call the Environment and Energy Helpline on **0800 585794**

Energy Consumption Guides: compare energy use in specific processes, operations, plant and building types.

Good Practice: promotes proven energy-efficient techniques through Guides and Case Studies.

New Practice: monitors first commercial applications of new energy efficiency measures.

Future Practice: reports on joint R&D ventures into new energy efficiency measures.

General Information: describes concepts and approaches yet to be fully established as good practice.

Fuel Efficiency Booklets: give detailed information on specific technologies and techniques.

Introduction to Energy Efficiency: helps new energy managers understand the use and costs of heating, lighting, etc.

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